



Assessing Parental Satisfaction with Pediatric Healthcare Services in Saudi Arabia: A Cross-Sectional Survey

Abdullah Alzayed^{1*}, Maha Alkharisi², Raghad Aloubili³, Sarah Alobaidy⁴, Norah Almutairi⁵, Saja Alasiri⁶ and Renad Alosaimi⁷

¹Department of Pediatrics, College of Medicine, Imam Mohammad Ibn Saud Islamic University (IMSIU), Riyadh, Saudi Arabia

²⁻⁷College of Medicine, Imam Mohammad Ibn Saud Islamic University (IMSIU), Riyadh, Saudi Arabia

Author Designation: ¹Associate Professor, ²⁻⁷Medical Student

*Corresponding author: Abdullah Alzayed (e-mail: aalazayed@imamu.edu.sa).

©2025 the Author(s). This is an open access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>)

Abstract: Background: Parental satisfaction reflects pediatric care quality. We assessed satisfaction with Saudi pediatric services across communication, environment, perceived child outcomes, and determinants. **Methods:** Cross-sectional online survey (2024) of parents/caregivers whose children received care in the prior year. We conducted a cross-sectional online survey using an adapted instrument derived from the PSQ-18 and P-MISS (communication, environment, and perceived outcome subscales; 5-point Likert). Analyses included Spearman correlations and multivariable linear regression. **Results:** Among 323 respondents. Most respondents were mothers (71%); More than two thirds of children were <10 years; most respondents had higher education. Overall satisfaction was moderately high (mean 3.1/5). Communication and environment each correlated with overall satisfaction, while perceived child outcomes showed no association. In regression, communication and environment together explained 60% of the variance in overall satisfaction; outcome satisfaction was not predictive. No notable differences by gender or education. Open-ended feedback highlighted clearer communication, staff responsiveness, and better facility comfort/amenities. **Conclusion:** Parents reported generally positive experiences driven more by provider communication and a welcoming environment than by perceived clinical outcomes. Pediatric services should prioritize family-centered communication and environment improvements, use validated tools for ongoing monitoring, and incorporate children's perspectives in future longitudinal work.

Key Words Parental satisfaction, Pediatric healthcare services, environment, Saudi Arabia, Cross-sectional survey

INTRODUCTION

Patient satisfaction is widely recognized as an important indicator of healthcare quality, and in pediatric settings the satisfaction of parents (or primary caregivers) is especially pivotal. Satisfied parents are more likely to trust healthcare providers and adhere to medical advice, which can lead to better follow-through with treatments and improved health outcomes for the child. Conversely, parental dissatisfaction may signal problems in care delivery and can negatively impact care-seeking behavior. Studies have described patient satisfaction as a cornerstone of quality measurement, affecting clinical outcomes and patient retention [1-2]. In pediatrics, parents' perceptions of service quality can influence whether they return for follow-ups and how they manage their child's care at home. High parental satisfaction often correlates with effective communication with

providers and a strong provider-family relationship, whereas poor communication is a common source of dissatisfaction.

Prior research in Saudi Arabia and other countries highlights the multifaceted nature of parental satisfaction with pediatric care. For example, in one Saudi hospital survey, 97% of mothers felt that the treating physician maintained close communication with them, and most rated their child's care as "excellent" or "very good" [3]. A recent large-scale study at a children's hospital in Taif, Saudi Arabia found that overall satisfaction levels averaged around 3.9 out of 5, with particularly high ratings for staff attitude and provider communication; the hospital's facilities and amenities, while still positively rated, received the lowest scores [4]. These findings suggest generally positive parental experiences, but also point to specific domains (such as communication and the physical environment) that

may need improvement. Internationally, there is evidence of variability in satisfaction. In Pakistan, a survey using the Patient Satisfaction Questionnaire-18 (PSQ-18) reported a lower average satisfaction (only about 40% of respondents gave a positive rating on a 5-point scale), and parental factors like age and education significantly influenced satisfaction levels [5]. In Sweden, a recent quasi-experimental study of post-discharge support found that parents were very satisfied with pediatric care overall; interestingly, mothers reported higher satisfaction with communication and inclusion in care than fathers did [6]. These examples illustrate that parental satisfaction is context-dependent and can be moderated by cultural and individual factors (such as expectations or the parent's demographic background).

We anticipated that certain aspects of care would drive parental satisfaction more strongly than others. Drawing on healthcare quality frameworks (notably Donabedian's structure–process–outcome model [7]), our conceptual model posited that “process” factors like provider communication and empathy, and “structure” factors like the hospital environment, would heavily influence parents' satisfaction (the outcome), potentially more so than the child's actual health outcome. This is consistent with the family-centered care approach, which emphasizes meeting families' informational and emotional needs alongside achieving good clinical results. Indeed, parents might report high satisfaction despite a suboptimal health outcome for the child, if they feel the healthcare team was caring, communicative, and did their best under the circumstances. Conversely, even excellent clinical outcomes might not fully satisfy parents if communication is poor. Past research has noted that patient satisfaction surveys often yield high scores that may mask underlying issues [8], partly due to courtesy bias or adjusted expectations. We aimed to delve into what drives these satisfaction ratings in a pediatric context.

Given the limited research focusing on parental satisfaction in Saudi Arabia's diverse healthcare settings, our study addresses this gap by surveying parents across multiple institutions (public and private, hospitals and clinics) nationwide. We build on prior findings (such as the generally high satisfaction but communication concerns observed in regional studies) to identify which aspects of care delivery most strongly influence how parents evaluate their child's care. Ultimately, improving parental satisfaction is not only a goal in itself but is expected to enhance healthcare utilization and cooperation; for example, satisfied parents are more likely to follow discharge instructions and attend follow-up appointments.

This study was guided by Donabedian's structure–process–outcome framework, hypothesizing that process elements, particularly provider–parent communication, and structural elements, care environment, would demonstrate stronger associations with parental satisfaction than perceived health outcomes in a cross-sectional design.

Objectives

The present study aimed to systematically assess parental satisfaction with pediatric healthcare services in Saudi Arabia and to determine factors associated with higher or lower satisfaction. The specific objectives were to:

- Measure how satisfied parents/caregivers are with the pediatric health services their children receive, identifying areas of strength and areas in need of improvement (Primary Objective)
- Examine the effectiveness of communication between healthcare providers and parents (clarity of explanations, empathy, involving parents in decisions) and assess its relationship to overall satisfaction.
- Determine how the healthcare environment, including cleanliness, comfort, and child-friendly facilities, affects parents' overall care experience and satisfaction
- Understand parents' perceptions of their child's health outcomes after care (e.g. improvement in the child's condition, effective symptom management) and evaluate how these perceptions relate to parental satisfaction
- Explore whether satisfaction levels differ according to demographic characteristics such as the parent's gender, education level, or socioeconomic status, in order to identify any subgroups with distinctly higher or lower satisfaction

By achieving these objectives, we seek to clarify what drives satisfaction in pediatric care within the Saudi context. The findings can inform targeted improvements, for example, provider communication training or investments in child-friendly facilities, and contribute to the global literature on patient- and family-centered pediatric care.

METHODS

Study Design and Setting

We conducted a cross-sectional survey to capture a snapshot of parental satisfaction at a single point in time (early 2024). The study was carried out across multiple healthcare institutions in Saudi Arabia that provide pediatric care, including public government hospitals, private hospitals, and outpatient pediatric clinics in various regions. By sampling across different facility types and locations, we aimed to include a broad range of service experiences (from routine check-ups to specialized or acute care). The study design and reporting were guided by the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines for cross-sectional studies [11] to ensure clarity and methodological transparency.

Participants and Sampling

The target population was parents or primary caregivers of children (ages 0–15 years) who had utilized pediatric healthcare services in Saudi Arabia within the last 12 months. Both inpatient (hospitalized) and outpatient experiences were considered to encompass a variety of care

contexts. Inclusion criteria required participants to be adults (18 years or older) and the parent or legal guardian of a child who received care in the past year in Saudi Arabia. We excluded healthcare professionals responding about their own workplace (to avoid bias) and parents whose child's only recent care was outside the one-year recall window.

We employed a convenience sampling strategy due to practical considerations. The survey was disseminated online via channels likely to reach a wide range of parents: parenting and family groups on social media, hospital patient portals and newsletters, and community email lists where available. This open recruitment meant we could not calculate a definitive response rate (since the number of people who saw the invitation is unknown). We set an initial goal of obtaining around 300 respondents, which was considered sufficient to detect medium-sized correlations ($\rho \sim 0.3$) with ~80% power at $\alpha=0.05$ based on a power analysis. In the end, 323 parents/caregivers participated in the survey. While this sample size exceeded our minimum target (improving the reliability of estimates and allowing some subgroup analysis), we acknowledge that the convenience sampling and unknown response denominator limit the generalizability of the results. All participants provided informed consent electronically before beginning the questionnaire, and the study received ethical approval from Imam Mohammad Ibn Saud Islamic University institutional review board (HAPO-01-R-061).

Survey Instrument and Measures

We developed a structured questionnaire (available in both English and Arabic) to measure parental satisfaction and related factors. The content was informed by previously validated patient satisfaction surveys, adapted to the pediatric context and Saudi cultural setting. In particular, we adapted our survey from the Patient Satisfaction Questionnaire Short-Form (PSQ-18) for general aspects of healthcare satisfaction [5] [10] and the Parent Medical Interview Satisfaction Scale (P-MISS) for parent-specific interaction elements [3,9]. The PSQ-18 is an 18-item instrument covering domains such as technical quality, communication, time spent with doctor, and accessibility, and has been used internationally (e.g., in recent studies in South Asia) to gauge healthcare satisfaction [5]. The P-MISS focuses on pediatric visits and evaluates the parent's satisfaction with how the physician interacted with both parent and child, including communication quality, relief of the child's distress, and the parent's intent to adhere to recommendations [9]. The P-MISS has demonstrated high internal consistency (Cronbach's $\alpha \approx 0.95$) and construct validity, with parental satisfaction scores correlating strongly with independent ratings of physician communication skills [9]. We also note that other specialized tools exist (for example, the "Child ZAP" questionnaire developed in Europe to assess parents' perspectives in pediatric outpatient settings [17]), which underscores the variety of approaches to measuring this construct.

For our survey, we organized the questions into several sections:

- **Demographics and Background:** This section gathered information about the child (age group, gender, and whether the child had health insurance) and the responding parent (relation to child – mother, father, or other guardian; highest education level; occupation; and an approximate family income bracket). These questions were included to describe our sample and to explore whether satisfaction differed among demographic subgroups
- **Overall Satisfaction:** Parents were asked to rate their overall satisfaction with the care their child received, using a Likert scale from 1 (very dissatisfied) to 5 (very satisfied)
- **Communication Satisfaction:** A set of items evaluated the parent's satisfaction with the healthcare provider's communication. Topics included clarity of explanations about the child's condition and treatment, the provider's listening skills and empathy, and the degree to which parents felt involved in care decisions. These items were inspired by domains from the PSQ-18 (e.g., communication) and P-MISS (parent-physician interaction)
- **Environment Satisfaction:** We included questions about the healthcare environment, such as cleanliness of the facility, comfort of waiting areas and hospital rooms, child-friendly features (play areas, decor), and general hospitality. Parents rated their satisfaction with these environmental aspects on the same 5-point scale. Since we did not find a single standard subscale for environment in existing questionnaires, we compiled these items based on common factors highlighted in literature and local considerations
- **Perceived Outcome:** We asked parents to report their perception of their child's health outcome following the care. Specifically, whether they felt the child's issue was adequately addressed or improved after the visit/hospitalization. This was measured by a couple of questions (for example, "How satisfied are you with the outcome of your child's treatment or visit?" and a yes/no on whether the child's health improved or concern was resolved). We recognize this is a subjective assessment, but it captures the parent's perspective on the effectiveness of care
- **Open-Ended Feedback:** Finally, the survey provided an optional open-ended question where parents could comment on what went well and what could be improved in their experience. This allowed respondents to voice any specific praises or concerns not fully captured by the structured questions

The questionnaire underwent content validation by two pediatric healthcare experts in Saudi Arabia, who reviewed the items for relevance and clarity. We also piloted the survey with a small group of five parents to ensure the

questions were clear and culturally appropriate. Based on the pilot feedback, minor wording adjustments were made (for instance, simplifying some language for clarity). We did not perform a full psychometric validation (e.g., factor analysis) of our custom-compiled instrument due to time constraints; this is acknowledged as a study limitation. However, by grounding the survey in established instruments and using straightforward questions, we aimed to maximize face validity and reliability. The survey was administered online; participants accessed it via a secure web link, completed the questions in order, and submitted their responses electronically in January and February 2024.

Data Analysis

Survey responses were analyzed using IBM SPSS Statistics (Version 28). Prior to analysis, data were reviewed for completeness and consistency. We excluded any respondent who failed an attention check or left large portions of the questionnaire blank, but in practice, no submitted responses had to be removed for quality issues (there were no duplicate entries and minimal missing data).

We first computed descriptive statistics to summarize the sample characteristics and the distribution of satisfaction ratings. Mean and standard deviation (or median and interquartile range for non-normal distributions) were calculated for the satisfaction scales. We examined the overall satisfaction score and the subscale scores (communication, environment, perceived outcome). Because an initial inspection showed that the satisfaction ratings were not normally distributed (the data were slightly skewed toward high satisfaction), we opted for nonparametric correlation analysis. Spearman's rho (ρ) was used to assess the correlation between each satisfaction domain and the overall satisfaction score. This tested our hypotheses that better communication and better environment ratings would be associated with higher overall satisfaction, and that perceived outcome might have a weaker association.

We fitted multivariable linear regressions with overall satisfaction as the dependent variable and entered Communication and Environment first, followed by Perceived Outcome to test incremental contribution. Model diagnostics included linearity, homoscedasticity, multicollinearity (VIF), and influence (Cook's distance). Listwise deletion was used for models, pairwise deletion for correlations.

RESULTS

Sample Characteristics

A total of 323 parents/caregivers completed the survey (Table 1). Because of the broad online recruitment, an exact response rate cannot be determined. Mothers represented most respondents (228; 70.6%), with fathers also contributing (95; 29.4%). The sample was relatively well-educated (higher education 80.8%). Children's ages ranged from infancy to 15 years; about 80% were under 10 years old

(<1 year: 15.4; 1–5 years: 34.7%; 6–10 years: 31.3%; 11–15 years: 18.6%). Just over half of the children were male ($\approx 54.8\%$). Health-insurance coverage for the child was reported by 40.2% of respondents. Regarding healthcare settings, most recent encounters were commonly outpatient visits, with a substantial minority involving hospitalization or emergency care within the past year.

Satisfaction Levels

Parents generally reported positive experiences (Table 2). On the 1–5 scale, the mean overall parental satisfaction score was 3.146 (SD 0.451). Interpreting 3 as neutral/mixed and 4 as very satisfied, a mean slightly above 3 indicates moderately high satisfaction on average, with room for improvement.

Communication was consistently described as a strength. Most parents reported that clinicians explained the child's condition and plan clearly, listened to concerns, and showed empathy. A notable subset nonetheless gave lower ratings, often citing medical jargon, feeling rushed, or limited involvement in decision-making.

Satisfaction with the care environment (cleanliness, comfort, and child-friendly features) was generally high, with more variation than communication. Many parents appreciated play areas and welcoming décor when available. Common critiques focused on waiting times and crowding, and some parents noted challenges with parking and navigating large hospitals, which indirectly affected their experience.

Perceived Health Outcomes

Reports of the child's health after care were mixed. Slightly more than half of parents described clear improvement, while others reported partial improvement or ongoing concerns. Importantly, even when resolution was incomplete, many parents still expressed high overall satisfaction, often because they felt clinicians did their best or because the condition required ongoing management. Conversely, a few parents whose children recovered well still reported only moderate satisfaction due to stresses in the care process.

Correlation Analysis

Spearman correlations showed strong positive associations between overall satisfaction and both communication and environment ($\rho \approx 0.76$ for each; $p < 0.001$). In contrast, perceived outcome satisfaction showed no meaningful association with overall satisfaction ($\rho \approx 0.00$; $p \approx 0.59$), indicating that process-related factors (how care was delivered and the setting) were more closely linked with parents' global ratings than perceived outcomes per se (Table 3).

Regression Analysis

In a multiple linear regression including communication, environment, and outcome satisfaction, the model explained about 60% of the variance in overall satisfaction (adjusted $R^2 \approx$

Table 1: Sample Characteristics

Variable	Category	N	Percentage
Age	<1	50	15.4%
	1-5	112	34.7%
	6-10	101	31.3%
	11-15	60	18.6%
Gender	Male	177	54.8%
	Female	146	45.2%
Relationship with the child	Mother	228	70.6%
	Father	95	29.4%
Child Health Insurance Coverage	Insured	130	40.2%
	Uninsured	193	59.8%
Parents' Education Level	No formal education	14	4.3%
	Elementary school	33	10.2%
	Primary education	15	4.6%
	Higher education	261	80.8%
Family Income	Low income	5	1.5%
	Middle income	223	69.0%
	High income	57	17.6%
	Prefer not to say	38	11.8%
Parent Occupation	Unemployed	28	8.7%
	Private sector	52	16.1%
	Public sector	195	60.4%
	Medical field	48	14.9%

Table 2: Satisfaction Domain Scores

Measure	Mean	SD
Overall Parental Satisfaction (1–5)	3.146	0.451
Communication Satisfaction	2.834	0.454
Environment Satisfaction	2.950	0.490
Health-Outcome Satisfaction	2.050	0.594

Likert 1=Strongly disagree ... 5=Strongly agree; higher scores indicate better experience.

Table 3: Spearman Correlations with Overall Parental Satisfaction

Pair	Spearman ρ	p-value
Communication vs Overall satisfaction	0.759	<0.001
Environment vs Overall satisfaction	0.759	<0.001
Health-Outcome vs Overall satisfaction	-0.030	0.589

Table 4: Multiple Linear Regression Predicting Overall Satisfaction

Parameter	Value
Model	Outcome: Overall satisfaction; Predictors: Communication, Environment, Health-Outcome
Adjusted R ²	0.60
Communication	Significant ($p < 0.001$)
Environment	Significant ($p < 0.001$)
Health-Outcome	Not significant ($p \approx 0.5$)

0.60) (Table 4). Communication and environment were significant positive predictors (both $p < 0.001$), whereas outcome satisfaction was not significant ($p \approx 0.5$). These results reinforce that interpersonal and environmental aspects independently shaped overall ratings, whereas perceived outcomes did not add explanatory value once communication and environment were considered.

Differences by Demographic Subgroups

Overall satisfaction was broadly similar across subgroups. Mothers and fathers reported comparable levels; satisfaction did not differ meaningfully by the child's age or gender. There was a slight tendency for university-educated parents to report marginally lower satisfaction than those with lower formal education, but differences were not statistically significant. Income differences were not clearly evident,

acknowledging that relatively few respondents identified as low income. Given the sample composition (predominantly higher-educated, urban parents), subgroup findings should be interpreted cautiously.

Open-Ended Feedback

The qualitative comments provided further insight into the numbers. Many parents praised individual healthcare providers or specific hospitals, highlighting instances of compassionate care or efficient service. For example, several comments mentioned doctors who took extra time to reassure anxious parents, or nurses who were particularly gentle and friendly with children—these instances clearly left a positive impression. On the improvement side, a recurring theme was the desire for clearer and more frequent communication. Some parents felt that they had to ask for

information rather than having it offered proactively, especially regarding what to expect during a hospital stay or how to care for their child after discharge. Additionally, several parents mentioned long waiting times as a source of frustration (“Waiting for hours to see a specialist with a sick child was very hard”), as well as administrative delays (such as slow registration or billing procedures). Facility amenities also came up: while many found the pediatric environments satisfactory, a few suggested having more toys or activities for children in waiting areas, better seating for parents, or even simple improvements like providing drinking water and clean restrooms conveniently. One parent of a child with special needs commented on the lack of accommodations for children with autism in busy clinic settings (e.g., no quiet space to retreat to if the child became overwhelmed). These comments underscore that even satisfied parents can identify practical areas for quality improvement.

Overall, the results paint a picture of generally high parental satisfaction in Saudi pediatric care, driven especially by good communication and comfortable, child-friendly environments. At the same time, they highlight that healthcare providers and administrators should not become complacent; issues like wait times, information-sharing, and certain environmental comforts still matter a great deal to families and can be targeted to elevate satisfaction further.

DISCUSSION

In a national sample of Saudi parents, we examined how provider communication, the care environment, and perceived child health outcomes relate to overall parental satisfaction. Two process domains, communication and environment, dominated parents’ judgments of care quality, whereas perceived clinical outcome contributed little. This supports the broader shift toward patient- and family-centered processes as key determinants of satisfaction [12,7].

Echoing regional reports, overall satisfaction was high; prior Saudi work has likewise found very positive ratings (e.g., near-universal satisfaction in one pediatric ward survey [3]). Yet such scores must be read cautiously because satisfaction instruments often show ceiling effects [8]. Cultural politeness and modest expectations can suppress criticism, so “satisfied” can coexist with actionable concerns. In our data, open-ended comments frequently flagged specific improvement needs (e.g., discharge communication, waiting times). As Williams *et al.* note, favorable ratings can mask service quality problems [8].

Clear, empathic, and inclusive communication strongly predicted higher overall satisfaction. This aligns with extensive evidence linking clinician communication to greater satisfaction, trust, and adherence [12] [13]. Street *et al.* describe pathways, reduced anxiety, improved understanding, stronger therapeutic alliance, through which communication improves patient experience [12]. In pediatrics, it also means calming parents’ fears and engaging them as partners. Our qualitative data underscored that plain-language explanations, active listening, and shared decision-making were praised, while brusqueness or dismissiveness

eroded trust. Because excellent communication can partially offset other stressors (e.g., long waits), targeted investments are warranted: structured training in patient-centered skills, teach-back to confirm comprehension, and discharge protocols ensuring questions are answered. Such interventions have improved satisfaction in diverse settings [13].

Parents valued clean, comfortable, child-friendly spaces, findings consistent with “healing environments” research showing that better design, cleanliness, lower noise, and supportive amenities reduce stress and improve outcomes [14]. In our data, environment satisfaction correlated strongly with overall satisfaction ($\rho \approx 0.77$). Saudi evidence also suggests mothers attend closely to environmental details and that cleanliness, waiting conditions, and courtesy shape global judgments [15]. Practical steps include rigorous cleanliness, comfortable and adequately spaced waiting areas, child-appropriate decor and distractions, clear signage, streamlined check-in, and parent accommodations. These are not cosmetic upgrades; they materially influence experience.

Contrary to intuition, perceived child health outcome showed little association with overall satisfaction. Parents appeared to separate “what happened” from “how we were treated.” Many recognize outcomes aren’t fully under clinician control, whereas communication and effort are. Thus, a caring, thorough team can yield high satisfaction even amid imperfect outcomes, while a poor interpersonal/process experience can sour perceptions despite recovery. This aligns with Donabedian’s emphasis on structure and process as core to perceived quality [7]. None of this diminishes the primacy of clinical outcomes; rather, it shows outcomes alone do not dictate experience.

Internationally and regionally, communication, staff attitude, information provision, and the hospital atmosphere repeatedly predict satisfaction beyond health status [5-6,15]. Our Saudi findings fit this pattern. Unlike some local and international reports (e.g., Taif study [4]), we observed no clear differences by gender or education, possibly a ceiling effect in a homogeneous, highly educated sample or genuine equity gains in experience delivery. Larger, stratified studies are needed.

Front-line behaviors, sitting during consultations, using plain language, empathic listening, and end-of-visit checks for questions, can measurably improve experience. Organizationally, treat the physical environment as part of care quality: maintain facilities, reduce noise and crowding, improve wayfinding, and make spaces child friendly. In a competitive Saudi health market, facilities known for respectful communication and welcoming environments will stand out.

Strengths and Limitations

Strengths include a relatively large, multi-setting sample and mixed-methods insights (ratings plus qualitative comments). Limitations temper generalizability and causal inference: (1) Sampling; an online convenience sample skewed toward

urban, well-educated parents likely underrepresents rural and lower-SES groups; response rates were incalculable, inviting selection and courtesy biases. (2) Cross-sectional design; precludes causal claims and cannot capture temporal shifts. (3) Measurement; we used a composite instrument informed by established tools but not fully validated; ad-hoc scales (e.g., environment) may lack psychometric robustness. Future work should deploy culturally adapted, validated instruments (e.g., PSQ-18, P-MISS) [5] [9]. (4) Child perspective; adolescents' views may diverge from parents'; we did not capture them. (5) Scope; some influential variables (e.g., measured wait time, staff-to-patient ratios, continuity) were not quantified and facility-type comparisons were limited by power.

Analytic Nuance on Outcomes

We observed inconsistent signals as one analysis suggested a modest association between perceived outcome and satisfaction, whereas a Spearman correlation, more appropriate for distributional features, did not. We privilege the latter, but the relationship may be non-linear or confounded. The cautious takeaway is “no strong general association in our sample,” not an absolute absence of effect.

Recommendations for Research and Quality Improvement

Future research and quality improvement should prioritize representative, nationwide stratified surveys to test generalizability and reveal regional or institutional differences that can guide system-level changes. Longitudinal studies are needed to examine whether higher satisfaction, particularly with communication, predicts adherence, service use, and downstream outcomes [1]. Rigorous intervention evaluations (e.g., controlled before–after studies, cluster randomized trials) should test communication-skills training and environmental upgrades for causal effects on satisfaction and related metrics such as complaints and attendance. Children's perspectives must be incorporated via age-appropriate patient-reported measures to capture dimensions parents may miss, while in-depth qualitative work (focus groups/interviews) can surface culturally specific expectations (e.g., family involvement, hospitality norms). Finally, routine deployment of patient-reported experience measures (PREMs) targeting concrete provider behaviors (e.g., clarity about side effects) can pinpoint actionable gaps and support continuous tracking over time [16].

CONCLUSION

In Saudi pediatric care, how care is delivered, through compassionate, comprehensible communication and a supportive, child-friendly environment, drives parental satisfaction more than perceived clinical outcomes. High overall ratings should not breed complacency given ceiling effects and cultural courtesy biases. Practical investments in communication skills and environmental quality are central to service excellence, trust, and likely adherence. As the system advances, pairing rigorous, validated measurement

with representative and longitudinal research will help translate these insights into equitable, family-centered improvements across settings.

REFERENCES

- [1] B. Prakash, “Patient satisfaction,” *Journal of Cutaneous and Aesthetic Surgery*, vol. 3, no. 3, 2010, pp. 151–155. <https://doi.org/10.4103/0974-2077.74491>
- [2] R. Al-Abri and A. Al-Balushi, “Patient satisfaction survey as a tool towards quality improvement,” *Oman Medical Journal*, vol. 29, no. 1, 2014, pp. 3–7. <https://doi.org/10.5001/omj.2014.02>
- [3] A.M. Al-Binali, “Maternal satisfaction and awareness regarding pediatric services at a tertiary hospital in southwestern Saudi Arabia,” *Saudi Medical Journal*, vol. 27, no. 2, 2006, pp. 235–237. <https://pubmed.ncbi.nlm.nih.gov/16501683/>
- [4] F.M. Althubiti *et al.* “Parental satisfaction and associated factors towards the service quality at the Taif Children's Hospital,” *International Journal of Medical and All Body Health Research*, vol. 4, no. 4, 2023, pp. 7–14. <https://doi.org/10.54660/IJMBHR.2023.4.4.07-14>
- [5] B. Naeem *et al.* “Assessment of parental satisfaction with paediatric health services in public sector tertiary hospitals within a low-income setting using patient satisfaction questionnaire (PSQ-18),” *BMJ Paediatrics Open*, vol. 8, no. 1, 2024, pp. e002418. <https://doi.org/10.1136/bmjpo-2023-002418>
- [6] S.F. Jeppesen *et al.* “Parental satisfaction with paediatric care with and without the support of an eHealth device: a quasi-experimental study in Sweden,” *BMC Health Services Research*, vol. 23, 2023, Article 10398. <https://doi.org/10.1186/s12913-023-10398-7>
- [7] A. Donabedian, “The quality of care: how can it be assessed?” *Journal of the American Medical Association*, vol. 260, no. 12, 1988, pp. 1743–1748. <https://doi.org/10.1001/jama.260.12.1743>
- [8] B. Williams *et al.* “The meaning of patient satisfaction: an explanation of high reported levels,” *Social Science & Medicine*, vol. 47, no. 9, 1998, pp. 1351–1359. [https://doi.org/10.1016/S0277-9536\(98\)00213-5](https://doi.org/10.1016/S0277-9536(98)00213-5)
- [9] C.C. Lewis *et al.* “Parent satisfaction with children's medical care: development, field test, and validation of a questionnaire,” *Medical Care*, vol. 24, no. 3, 1986, pp. 209–215. <https://doi.org/10.1097/00005650-198603000-00003>
- [10] G.N. Marshall and R.D. Hays, *The patient satisfaction questionnaire short-form (PSQ-18)*, Santa Monica, CA: RAND Corporation, 1994. <https://doi.org/10.3402/meo.v18i0.21747>
- [11] E. von Elm *et al.* “The strengthening of reporting of observational studies in epidemiology (STROBE) statement: guidelines for reporting observational studies,” *PLoS Medicine*, vol. 4, no. 10, 2007, Article e296. <https://doi.org/10.1016/j.jclinepi.2007.11.008>
- [12] R.L. Street Jr *et al.* “How does communication heal? Pathways linking clinician–patient communication to health outcomes,” *Patient Education and Counseling*, vol. 74, no. 3, 2009, pp. 295–301. <https://doi.org/10.1016/j.pec.2008.11.015>
- [13] M.B. Wanzer, M. Booth-Butterfield and K. Gruber, “Perceptions of health care providers' communication: relationships between patient-centered communication and satisfaction,” *Health Communication*, vol. 16, no. 3, 2004, pp. 363–384. https://doi.org/10.1207/S15327027HC1603_6

- [14] R.S. Ulrich *et al.* "A review of the research literature on evidence-based healthcare design," *HERD: Health Environments Research & Design Journal*, vol. 1, no. 3, 2008, pp. 61–125. <https://doi.org/10.1177/193758670800100306>
- [15] M.A. Zolaly, "Satisfaction of parents of pediatric patients with physicians' communication skills in Al-Madina, Saudi Arabia," *Journal of Taibah University Medical Sciences*, vol. 7, no. 1, 2012, pp. 29–34. <https://doi.org/10.1016/j.jtumed.2012.07.007>
- [16] E. McCabe, S. Rabi, S. Bele *et al.* "Use of patient-reported experience measures in pediatric care: a systematic review," *Frontiers in Pediatrics*, vol. 9, 2021, Article 753536. <https://doi.org/10.3389/fped.2021.753536>
- [17] E.M. Bitzer *et al.* "Patient satisfaction in pediatric outpatient settings from the parents' perspective – the Child ZAP: a psychometrically validated standardized questionnaire," *BMC Health Services Research*, vol. 12, 2012, pp. 347. <https://doi.org/10.1186/1472-6963-12-347>